

CLAIMS

1. A method for determining a potential failure of a battery in a vehicle, the method comprising:
determining one or more battery characteristics during a vehicle starting event;
comparing the battery characteristics to stored reference parameters derived from one or more prior starting events; and
activating a battery alert indicator that indicates a potential battery failure if a selected battery characteristic exceeds a selected reference parameter.
2. The method of claim 1, wherein the step of determining further comprises evaluating a battery waveform to determine the battery characteristics.
3. The method of claim 1, wherein the battery characteristics comprise one or more of a battery dip voltage, engine crank speed indicator, and engine starting time indicator.
4. The method of claim 1, wherein the step of comparing further comprises averaging battery characteristics from one or more prior starting events to determine the reference parameters.
5. The method of claim 1, wherein the step of comparing further comprises downloading the reference parameters from a remote station.
6. The method of claim 1, wherein the step of comparing further comprises selecting the reference parameters from a table of parameters based on one or more selection criteria, wherein the selection criteria comprise engine temperature, ambient temperature, battery type, and vehicle type.
7. The method of claim 1, further comprising transmitting the battery characteristics to a remote station using a wireless communication system.
8. The method of claim 1, further comprising transmitting a battery alert indicator to a remote station if a selected battery characteristic exceeds a selected reference parameter, wherein the battery alert indicator indicates a potential battery failure.

9. The method of claim 1, further comprising comparing the battery characteristics to the stored reference parameters to determine a potential vehicle component failure.

10. Apparatus for determining a potential failure of a battery in a vehicle, the apparatus comprising:

logic to receive a battery signal during a vehicle starting event;

detection logic that operates to determine one or more battery characteristics from the battery signal, and wherein the detection logic further comprises logic to compare the battery characteristics to reference parameters derived from one or more prior starting events to determine whether the battery poses a potential risk of failure; and

logic to activate one or more vehicle alert indicators if a selected battery characteristic exceeds a selected reference parameter.

11. The apparatus of claim 10, further comprising logic to create a battery waveform from the battery signal and evaluate the battery waveform to determine the battery characteristics.

12. The apparatus of claim 10, wherein the battery characteristics comprise one or more of a battery dip voltage, engine speed indicator, and engine starting time indicator.

13. The apparatus of claim 10, further comprising logic to average battery characteristics from one or more prior starting events to determine the reference parameters.

14. The apparatus of claim 19, further comprising logic to download the reference parameters from a remote station.

15. The apparatus of claim 10, further comprising logic to select the reference parameters from a table of parameters based on one or more selection criteria, wherein the selection criteria comprise engine temperature, ambient temperature, battery type, and vehicle type.

16. The apparatus of claim 10, further comprising logic to transmit the battery characteristics to a remote station using a wireless communication system.

17. The apparatus of claim 10, further comprising logic to transmit a battery alert indicator to a remote station if a selected battery characteristic exceeds a selected reference parameter, wherein the battery alert indicator indicates a potential battery failure.

18. The apparatus of claim 10, further comprising logic to compare the battery characteristics to the stored reference parameters to determine a potential vehicle component failure.

19. Apparatus for determining a potential failure of a battery in a vehicle, the apparatus comprising:

means for determining one or more battery characteristics during a vehicle starting event;

means for comparing the battery characteristics to stored reference parameters derived from one or more prior starting events; and

means for activating a battery alert indicator that indicates a potential battery failure if a selected battery characteristic exceeds a selected reference parameter.

20. The apparatus of claim 19, wherein the means for determining further comprises means for evaluating a battery waveform to determine the battery characteristics.

21. The apparatus of claim 19, wherein the battery characteristics comprise one or more of a battery dip voltage, engine crank speed indicator, and engine starting time indicator.

22. The apparatus of claim 19, wherein the means for comparing further comprises means for averaging battery characteristics from one or more prior starting events to determine the reference parameters.

23. The apparatus of claim 19, wherein the means for comparing further comprises means for downloading the reference parameters from a remote station.

24. The apparatus of claim 19, wherein the means for comparing further comprises means for selecting the reference parameters from a table of parameters based on one or more selection criteria, wherein the selection criteria comprise engine temperature, ambient temperature, battery type, and vehicle type.

25. The apparatus of claim 19, further comprising means for transmitting the battery characteristics to a remote station using a wireless communication system.

26. The apparatus of claim 19, further comprising means for transmitting a battery alert indicator to a remote station if a selected battery characteristic exceeds a selected reference parameter, wherein the battery alert indicator indicates a potential battery failure.

27. The apparatus of claim 19, further comprising means for comparing the battery characteristics to the stored reference parameters to determine a potential vehicle component failure.

28. A computer-readable media comprising instructions, which when executed by a processor, operate to determine a potential failure of a battery in a vehicle, the computer-readable media comprising:

instructions for determining one or more battery characteristics during a vehicle starting event;

instructions for comparing the battery characteristics to stored reference parameters derived from one or more prior starting events; and

instructions for activating a battery alert indicator that indicates a potential battery failure if a selected battery characteristic exceeds a selected reference parameter.

29. The computer-readable media of claim 28, further comprising instructions for comparing the battery characteristics to the stored reference parameters to determine a potential vehicle component failure.